RELIANCE OILFIELD SERVICES

Pulsed Neutron
Gamma Ray
Casing Collar Log

Company	TEP Rocky Mountain LLC
Well	Federal RWF 442-18
Field	Rulison
County	Garfield
State	Colorado

Company TEP Rocky Mountain LLC

Well Federal RWF 442-18

Field Rulison

County Garfield State Colorado

Location: API #: 05-045-24035

SEC 17 TWP 6S RGE 94W

Other Services: ---

				Elevation
Permanent Datum	Ground Level	Elevation	6175'	K.B. 6199'
Log Measured From	Kelly Bushing		24 FT	D.F. ---
Drilling Measured From	Kelly Bushing			G.L. 6175'

Date	24-JUN-2019		
Run Number	One		
Depth Driller	9112 FT		
Depth Logger	9035 FT		
Bottom Logged Interval	9035 FT		
Top Log Interval	4858 FT		
Open Hole Size	8.750"		
Type Fluid	Fresh Water		
Density / Viscosity	8.34 lb/gal		
Max. Recorded Temp.	---		
Estimated Cement Top	---		
Time Well Ready	ROA		
Time Logger on Bottom	09:30		
Equipment Number	HD-0331		
Location	Grand Junction, CO		
Recorded By	A. Ellsworth		
Witnessed By	Dustin Welsh		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom
Surface Casing	9 5/8	36	J-55	Surface	1108 FT
Intermediate #1	4 1/2	11.6	P-110	Surface	9070 FT
Intermediate #2					
Liner					

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Log ran as per customer request
Depth referenced to Reliance Bond Log dated 11-JUN-2019
Log ran from 9035 FT to 4858 FT
Pulsed Neutron Data logged with the Hunter RAS Tool

Thank you for choosing Reliance Oilfield Services, LLC!!

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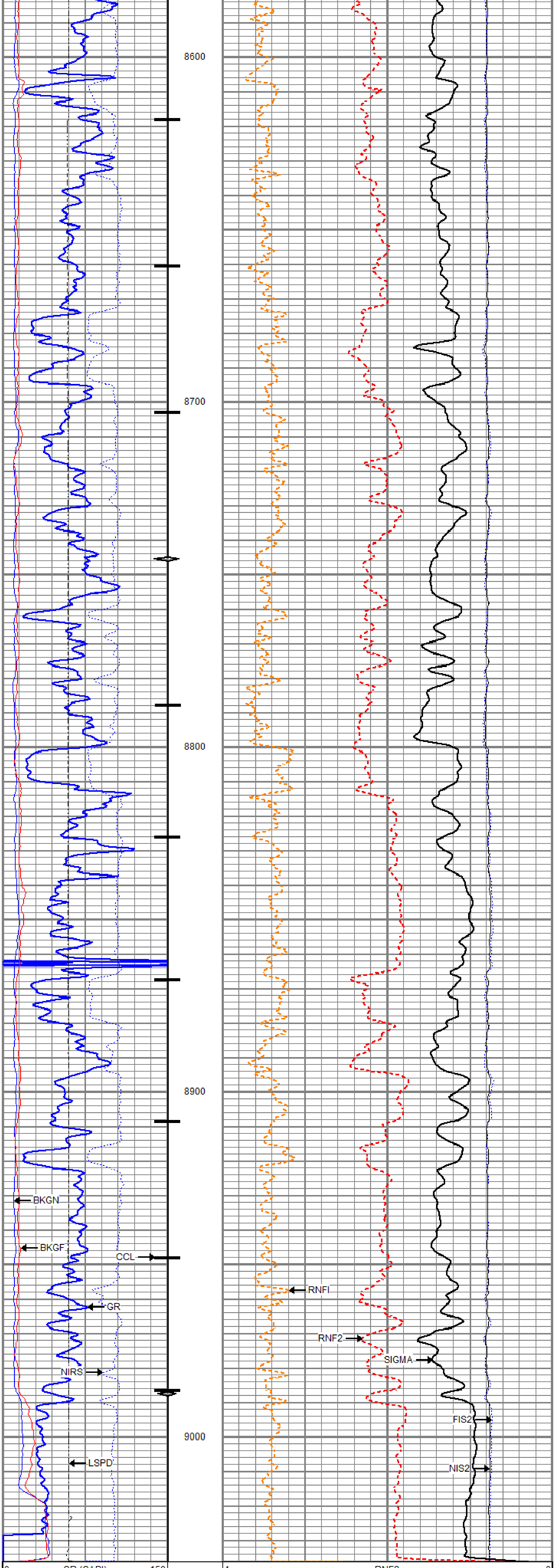
Main Pass

Database File	f:\data\tep\federal rwf 442-18\pn\tep_federal rwf 442-18_pn_06-24-19_new.db
Dataset Pathname	runSHIFTED/merge1
Presentation Format	ros_pdn_hunter
Dataset Creation	Tue Jun 25 20:52:03 2019
Charted by	Depth in Feet scaled 1:240

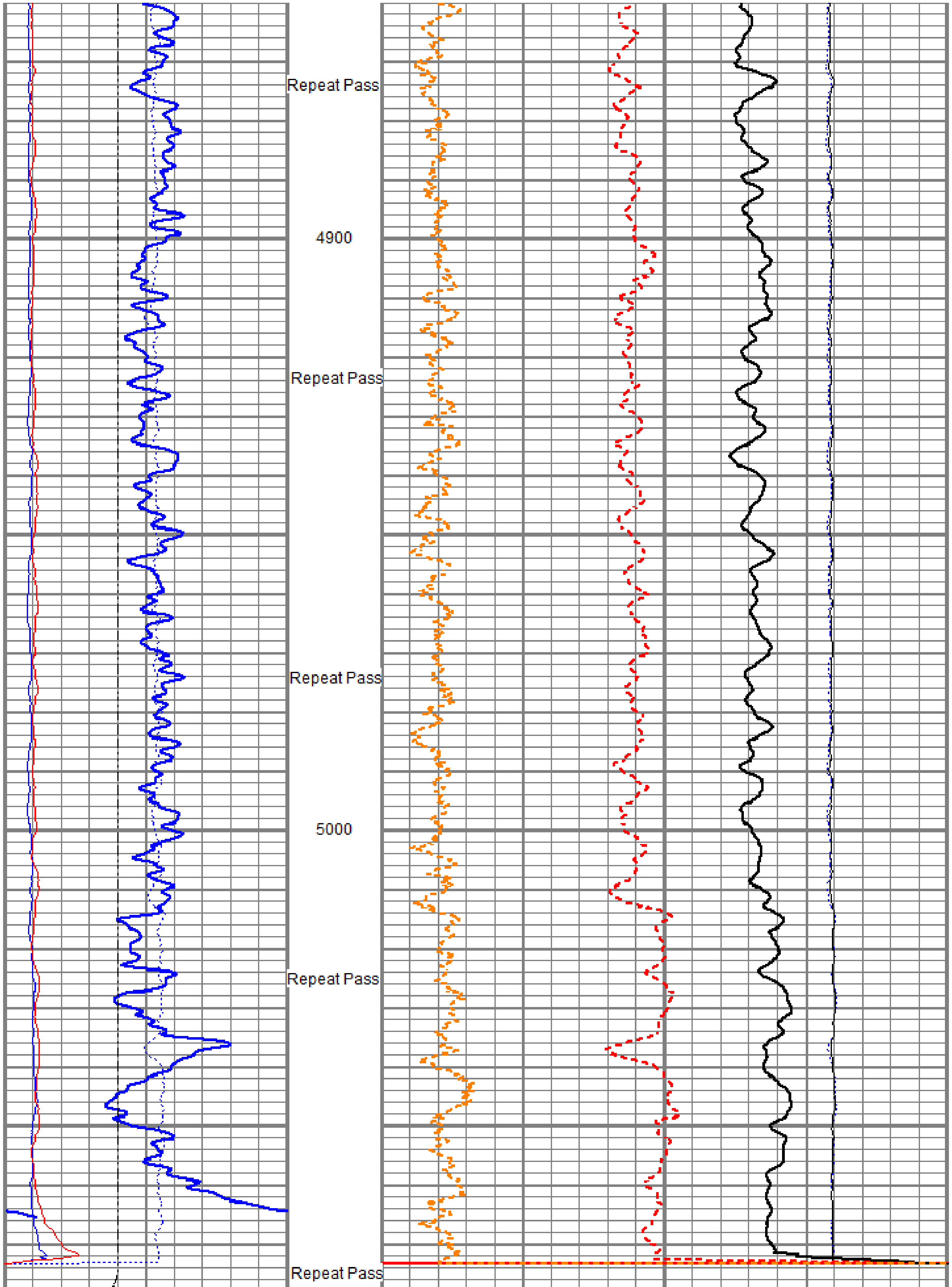


0	GR (GAPI)	150	4	RNF2	0	
	Casing Collar Locator		60	SIGMA (cu)	0	
-100	Line Speed (ft/min)	100	4.5	RNFI	0	
0	NIRS (cps)	400000				FIS2 0 (cps) 45000
0	BKGN (cps)	4000				NIS2 0 (cps100000
0	BKGF (cps)	2000				

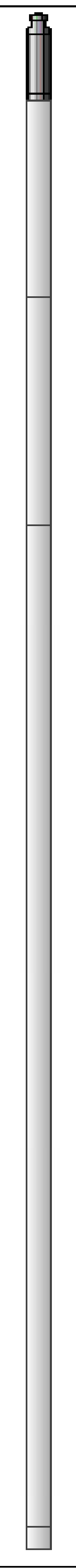
Repeat Pass

Database File	f:\data\tep\federal rwf 442-18\pn\tep_federal rwf 442-18_pn_06-24-19.db
Dataset Pathname	repeat.2
Presentation Format	ros_pdn_hunter
Dataset Creation	Mon Jun 24 18:02:26 2019
Charted by	Depth in Feet scaled 1:240

0	GR (GAPI)	150	4	RNF2	0	
-100	Line Speed (ft/min)	100	60	SIGMA (cu)	0	
0	NIRS (cps)	400000	4.5	RNFI	0	
0	BKGN (cps)	4000				FIS2 0 (cps) 45000
0	BKGF (cps)	2000				NIS2 0 (cps100000



0	GR (GAPI)	150	4	RNF2	0	
-100	Line Speed (ft/min)	100	60	SIGMA (cu)	0	
0	NIRS (cps)	400000	4.5	RNFI	0	
0	BKGN (cps)	4000				FIS2 0 (cps) 45000
0	BKGF (cps)	2000				NIS2 0 (cps100000

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Titan CHD-16875 GO Titan 1-11/16" Assembled Electric Cable Head w/ 1" Fishing Neck	1.03	1.69	5.40
TCUTEMP TCUVOLT GCL_CCL	14.69 14.69 13.97		HWS_TCU-002 (001704) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
GCL_GR GCL_GR	12.50 12.50		HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
Long Far Near Anci	6.25 6.25 6.25 6.25		HWS_RAS-RAS002 (003040) Hunter Well Science Pulsed Neutron Tool	11.75	1.69	55.82
			HWS_TBN-001 (001725) HWS Terminator Bull Nose (1.6875")	0.25	1.69	0.99

Dataset:	tep_federal rwf 442-18_pn_06-24-19.db: field/well/run1/main.2
Total length:	18.02 ft
Total weight:	86.48 lb
O.D.:	1.69 in

Calibration Report

Database File	f:\data\tep\federal rwf 442-18\pn\tep_federal rwf 442-18_pn_06-24-19.db
Dataset Pathname	main.2
Dataset Creation	Mon Jun 24 18:03:10 2019

Gamma Ray Calibration Report

Serial Number:	001681	
Tool Model:	001	
Performed:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	
Calibrator Reading:	1.0	
Sensitivity:	1.0000	GAPI/

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